Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims

Claim 1(Cancelled)

Claim 2 (Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test according to~~ The method of claim ~~1~~30, ~~characterized in that it~~further comprising ~~es~~ the following steps:

a) ~~The preparation of~~preparing at least one nucleic acid molecule comprising the gene(s) coding for one or several proteins and the control elements necessary for the transcription and the translation of said gene(s),

b) ~~The transcription of~~transcribing the nucleic acid molecule(s) prepared at step (a),

c) ~~The~~ translating *in vitro* ~~translation of~~ the transcript(s) prepared at step (b),

d) ~~The detection~~detecting and/or ~~the measurement of~~measuring the variation of a known function corresponding to the proteins produced at step (c) in the presence and in the absence of said substance or to the substance in the presence and in the absence of the proteins produced at step (c).

Claim 3 (Currently Amended): ~~Process for determining the activiting *in vitro* of a substance using a functional test according to one of claims 1 to~~ The method of claim 2, ~~characterized in that the~~wherein preparation of one or several nucleic acid molecules of step (a) consists of placing the gene(s) coding for said protein(s) under the control:

~~For the transcription,~~ of a 5' promoter ~~and possibly of a 3' RNA polymerase~~

~~terminator~~for transcription and/or ,

~~For the translation,~~ of a ribosome binding site upstream of said gene(s) for translation.

Claim 4(Currently Amended): ~~Process according to one of claims 1 to~~ The method of claim 3, ~~characterized in that the functional test used corresponds to the detection and/or the measurement of a~~comprising detecting and/or measuring variation of the known function of the protein(s) produced at step (c).

Claim 5(Currently Amended): ~~Process of determining the activity *in vitro* of a substance using a functional test according to~~The method of claim 4, ~~characterized in that~~wherein step (a) ~~consists of the~~comprises preparation of the nucleic acid molecule(s) by ~~an amplification reaction of~~ amplifying the gene(s) coding for said protein(s).

Claim 6(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test according to~~The method of claim 5, ~~characterized in that~~wherein step (a) ~~consists of~~ comprises preparing the nucleic acid molecule(s) by ~~an amplification reaction of the~~ PCR or NASBA type amplifying of the gene(s) coding for said protein(s), with the aid of one or several pairs of primers, each one ~~composed of~~comprising:

~~For the sense primer,~~(a) some sequence hybridizing upstream of one or several nucleic acid molecules comprising ~~the~~ gene(s) coding for said protein(s), and of an RNA polymerase promoter ~~and possibly a ribosome binding site~~for the sense primer, and

~~For the antisense primer,~~(b) some sequence hybridizing downstream of one or several nucleic acid molecules comprising ~~the~~ gene(s) coding for said protein(s)~~, and possibly of an RNA polymerase terminator~~ for the antisense primer.

Claims 7-11 (Cancelled)

Claim 12(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to any one of the previous claims, characterized in that~~ The method of claim 4, wherein said function corresponds to a collection of target proteins of which the genes coding for these proteins are located on the same DNA fragment as in the case of an operon, or at different places of the DNA.

Claim 13(Currently Amended): ~~Process according to~~ The method of claim 12, ~~characterized in that~~wherein step (a) ~~consists of~~comprises preparing a nucleic acid molecule comprising ~~the~~ genes (the operon) coding for the proteins, 5' of the collection of said genes (from the operon) a DNA polymerase promoter, ~~possibly 3' of the collection of said genes (from the operon) an RNA polymerase terminator,~~ and for each of said genes its natural ribosome binding site.

Claim 14(Currently Amended): ~~Process according to~~The method of claim 13, ~~characterized in that~~wherein the ribosome binding site of each one of the genes is its natural ribosome binding site~~, and that it is then preferred to use~~and, at step (c), a translation extract is prepared starting from the organism that the target gene(s) come from or from a phylogenetically close organism.

Claim 15(Currently Amended): ~~Process according to~~The method of claim 12, ~~characterized in that~~wherein step (a) ~~consists of~~comprises preparing one or several nucleic acid molecules comprising the genes coding for the proteins, 5' of each of said genes an RNA polymerase promoter and a ribosome binding site~~, and possibly 3' of each one of said genes an RNA polymerase terminator~~.

Claim 16(Currently Amended): ~~Process according to~~ The method of claim 15, ~~characterized in that~~wherein the ribosome binding site can be the natural site of each one of the genes or another ribosome binding site more adapted to the translation step (c).

Claim 17(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to one of the previous claims, characterized in that~~The method of claim 30, wherein said proteins are variants of a protein or variants of a collection of proteins.

Claim 18(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to any one of the previous claims, characterized in that the detection and/or the measurement of the variation of function corresponding to the protein(s) produced at step (c) or to the substance is advantageously carried out at step (d) by a functional test using the presence, at one of steps (a), (b), (c) or (d), of~~ The method of claim 2, wherein one of several reporter molecules are added at one of steps (a), (b), (c) or (d) permitting ~~detection and/or measurement~~detecting and/or measuring of the activity of the protein(s) produced at step (c) or of the substance.

Claim 19(Currently Amended): ~~Process according to~~ The method of claim 18, ~~characterized in that~~wherein the reporter molecule is a molecule capable of directly or indirectly revealing the activity of one or several of said proteins or of said substance.

Claim 20(Currently Amended): ~~Process of determining the activity *in vitro* of a substance using a functional test, according to~~ The method of claim 19, ~~characterized in that~~wherein the reporter molecule is a protein that is produced during step (c) conjointly with said protein(s).

Claim 21(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to~~ The method of claim 20, ~~characterized in that~~wherein the gene coding for the reporter molecule is placed under the control of transcription and translation regulation sequences similar to those of the gene(s) coding for said protein(s), such that the reporter gene is co-expressed with said gene(s).

Claim 22(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to one of claims 1 to~~ The method of claim 17, ~~characterized in that~~wherein said protein or one of said proteins produced at step (c) is also a reporter molecule.

Claim 23(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to one of the previous claims, characterized in that said substance is introduced~~ The method of claim 2, further comprising introducing said substance before, after and/or during the transcription and/or translation of steps (b) and/or (c) and/or of ~~detection~~ detecting and/or of ~~measurement~~ measuring of the variation of at least one known functional step (d).

Claim 24(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to any one of the previous claims, characterized in that~~ The method of claim 30 wherein, said substance ~~is chosen among~~comprises polynucleotides, peptides, proteins, ions, molecules or natural or synthetic chemical compositions, hormones, aromatic compounds, antibodies, antibody fragments, genes, cellular receptors, amino acids, glycopeptides, lipids, glycolipids, sugars, polysaccharides, antiviruses, inhibitors, stimulants, physico-chemical conditions, radiation, or thermal treatments.

Claim 25(Currently Amended): ~~Process for determining the activity *in vitro* of a substance using a functional test, according to one of the previous claims, characterized in that~~ The method of claim 2, wherein after step (d), it is verified that said substance does not inhibit one of steps (a) to (c).

Claim 26(Currently Amended): A kit for the implementation of ~~a method according to any one of the previous claims, characterized in that it~~ the method of claim 30, wherein said kit comprises: ~~the~~ means for revealing the function, an RNA polymerase, nucleotide sequences for the preparation of the nucleic acid molecules comprising the gene(s) permitting the expression of protein(s) corresponding to the deteced and/or quantified function, ~~the~~ four triphosphate nucleotides, ~~the~~ mixtures necessary for said preparation, to the transcription and to the translation~~, and possibly some controls~~.

Claim 27(Currently Amended): ~~A kit for the implementation of a method according to any one of claims 1 to 26, characterized in that it includes~~ The kit of claim 26, wherein said kit further comprises:

~~Possibly the~~(a) products necessary for the preparation of the nucleic acid molecules comprising the gene(s) permitting the expression of the protein(s) corresponding to the detected and/or quantified function, and/or

~~Any~~(b) a support ~~such as microtitration plate or chip~~ containing: ~~the~~ means for revealing a function, an RNA polymerase, ~~the~~ four triphosphate nucleotides, ~~the~~ transcription and translation mixtures~~, possibly substances, and possibly controls~~.

Claim 28(Currently Amended): A support having a series of sites for the implementation of ~~a method according to any one of claims 1 to 26~~the method of claim 2,

wherein~~, characterized in that~~ each one of said sites permits the detection and/or the measurement of a variation of function.

Claim 29(Withdrawn): Process for development of new functional tests characterized in that it comprises the following steps:

a) the preparation of at least one nucleic acid molecule comprising the gene(s) coding for one or several proteins and control elements necessary for the transcription and translation of said gene(s),

b) the transcription of the nucleic acid molecule(s) prepared at step (a),

c) the translation *in vitro* of the transcript(s) prepared at step (b),

d) the detection and/or the measurement of the variation of a known function corresponding to the proteins produced at step (c) in the presence and in the absence of one or several reporter molecule(s).

Claim 30 (New): A method of screening a substance able to modify the known function of one or more proteins comprising the steps of:

(a) producing *in vitro* said proteins

(b) measuring and/or detecting variation of the known function in the presence and in the absence of the substance which is screened.

Claim 31 (New): The method of claim 6, wherein, for the sense primer, the sequence hybridizing upstream of one or several nucleic acid molecules further comprises genes coding for a ribosome binding site.

Claim 32 (New): The method of claim 6, wherein, for the antisense primer, the sequence hybridizing downstream of one or several nucleic acid molecules further comprises genes coding for an RNA polymerase terminator.